HOW TO USE THE FLIP CHART

- Obesity is a complex chronic disease that may make it difficult for patients to lose weight and to maintain weight loss. Talking to patients about their weight status can raise their awareness about how weight affects health and well-being as well as motivate and help patients achieve success.

- Conversations about weight can be difficult for patients and providers.
  - Weight bias and stigma may be barriers to communication.
  - Patients may feel reluctance or shame when talking about their weight.
  - Providers may have difficulty in knowing how to broach the topic of weight management with their patients.

- The flip chart is designed to help you more easily discuss obesity and weight management issues with your patients. There is a provider-facing side, and a patient facing side.

- The following communication tips can make conversations about weight easier.
  - Listen to your patient.
  - Ask for the patient’s permission before you discuss weight and weight-related health problems.¹
  - Obesity is a highly charged word. Patient-friendly terms include:²³
    - Weight, unhealthy weight, excess weight, weight problem.
  - The evidence-based 5As model supports discussions about weight.⁴ You can use the 5A topics to help patients identify, describe, and achieve their lifestyle and health goals.

The 5As of Obesity Management⁴

1. **ASK**
   - Ask for permission to discuss weight
   - Explore readiness for change

2. **ASSESS**
   - Assess obesity class and stage
   - Assess for drivers, complications, and barriers

3. **ADVISE**
   - Advise on obesity risks
   - Explain benefits of modest weight loss
   - Explain need for long-term strategy
   - Discuss treatment options

4. **AGREE**
   - Agree on realistic weight-loss expectations
   - Focus on behavioral goals (SMART) and health outcomes
   - Agree on treatment plan

5. **ASSIST**
   - Address drivers and barriers
   - Provide education and resources
   - Refer to appropriate provider
   - Arrange follow-up

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OVERVIEW

Adult Obesity Facts

Points to Emphasize:

Obesity is a chronic disease that is increasing in prevalence in the United States and around the world.

- Overweight and obesity affects 69% of adults ≥20 years\(^1\)
- Obesity affects 35% of adults ≥20 years
- Obesity affects 17% of youth (2-19 years)\(^1\)
- More women are affected by obesity than men (40% vs 35%)\(^1\)
- One third of women of childbearing age (20-29 years) are affected by overweight and obesity\(^1\)
- Obesity increases the risk of many conditions—type 2 diabetes mellitus, hypertension, cardiovascular disease, stroke, osteoarthritis, sleep apnea and respiratory problems.\(^2-6\)

---

The DISEASE of Obesity:

- Obesity/overweight:
  - Is a multi-factorial, chronic disease that makes it difficult for people to lose weight and leads to increased risk for other diseases.
  - Involves excess adipose tissue as a result of an imbalance between energy intake and energy expenditure.
  - Is not solely a lifestyle or behavioral issue. The onset of obesity involves genetic, metabolic, and environmental factors that contribute to its complex pathophysiology.
  - Is more complicated than total calories consumed and expended.

Additional Information:

- The terminology used to describe obesity is evolving. Adiposity-based chronic disease (ABCD) is a new term.
- The key elements of ABCD to support the care and management of patients who have overweight/obesity are as follows:
  - Lifestyle modifications to promote overall health;
  - A comprehensive approach to weight loss strategies;
  - Management of adiposity-based complications that is tailored to the individual cultural, ethnic and socio-economic characteristics of patients; and
  - Long-term support for weight management.

---

Defining Adult Overweight and Obesity

Ways to measure: BMI and Waist Size

- A weight more than what is considered as a healthy weight for a particular height is known as overweight or obesity.
- Body mass index (BMI) is a way to measure the relationship between weight and height.
- Waist size is another way to measure for unhealthy weight.

Classification of Overweight and Obesity by BMI and Waist Circumference

<table>
<thead>
<tr>
<th>Classification</th>
<th>BMI kg/m²</th>
<th>Comorbidity Risk</th>
<th>Men ≤40 in (102cm)</th>
<th>Women ≤35 in (88cm)</th>
<th>Men &gt;40 in (102cm)</th>
<th>Women &gt;35 in (88cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>&lt;18.5</td>
<td>Low but other problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal weight</td>
<td>18.5-24.9</td>
<td>Average</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overweight</td>
<td>25-29.9</td>
<td>Increased</td>
<td>Increased</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obese Class I</td>
<td>30-34.9</td>
<td>Moderate</td>
<td>High</td>
<td>Very high</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obese Class II</td>
<td>35-39.9</td>
<td>Severe</td>
<td>Very high</td>
<td>Very high</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obese Class III</td>
<td>≥40</td>
<td>Very severe</td>
<td>Extremely high</td>
<td>Extremely high</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Defining Adult Overweight and Obesity

Points to Emphasize:
- Use the following markers to screen patients for adiposity:
  - Body mass index (BMI): the higher the BMI, the greater the risk of morbidity and mortality
  - Waist circumference: an indirect measure of central adiposity that correlates with visceral fat and provides information about cardiometabolic risk
  - Weight-related complications or diseases

Additional Information:
- The American Association of Clinical Endocrinologists classifies overweight and obesity as follows:¹²

How Does the Body Control Weight?

Points to Emphasize:

• Energy intake (food) fuels energy expenditure (physical activity).
• The body tries to achieve balance between energy intake and energy expenditure (energy homeostasis) by complex interactions and feedback loops involving the brain, the gut, and other organs, including fat cells (adipocytes).\(^1\)\(^2\)
• Energy balance can be upset by:
  — Increased intake (e.g., high-fat, high-calorie diet)
  — Decreased expenditure (e.g., sedentary lifestyle)
• Genetic, environmental, metabolic, and behavioral factors affect the balance between energy intake and energy expenditure over an extended period.\(^3\)\(^4\)

Additional Information:

• Energy homeostasis involves:\(^5\)
  — **Central nervous system:**
    Hypothalamus receives signals from the body about the presence of too much or too little food, as well as its absorption rate. CNS uses these signals to control how nutrients are metabolized and how the mind decides when and what to eat.
  — **Cellular feedback loop:** Adipocytes secrete hormones in response to CNS signaling. These hormones are involved in regulating glucose, lipid, and steroid metabolism, as well as coagulation, blood pressure, and hunger. Short-term signals about nutrient availability circulate in a feedback loop between the brain and other organs (i.e., the periphery— the gut, pancreas, liver, muscle, adipose tissue). Feelings of hunger and fullness (satiety) drive appetite through hormones and special proteins (neuropeptides) that carry messages to the brain about nutrient surpluses or deficits in the body.
  — **Reward pathways:** Hypothalamus processes information from reward pathways associated with pleasure (sight, smell, taste of food). These pathways may override energy balance processes and influence the physiologic regulation of hunger and satiety.

---

\(^1\) Suzuki K, Jayasena CN, Bloom SR. Obesity and appetite control. Exp Diabetes Res. 2012;2012:824
When the Body is “Out of Balance…”

Points to Emphasize:

• The body stores excess energy in adipose tissue (fat).
• The type of adipose tissue and where it is stored in the body plays a role in how weight accrues, and increases the risk for other conditions.¹
• As people age, the balance between body fat and muscle mass shifts²
  — Body fat increases and muscle mass decreases.
  — Visceral fat tends to increase.
  — Physical inactivity, hormonal changes, and other physiological factors speed up this shift in balance between body fat and muscle.

Additional Information:

• White adipose tissue is the main type of adipose tissue and is the body’s main energy store.
  — It is metabolically active and functions as an endocrine organ system associated with energy metabolism, feeding control, inflammatory response, and cardiovascular function.³
  — Problems with the functioning of white adipose tissue lead to many adverse health conditions (e.g., atherosclerosis, insulin resistance and diabetes, rheumatoid arthritis, osteoarthritis, kidney disease, liver disease).
• Brown adipose tissue (BAT) is metabolically active tissue that is mostly found in the neck, shoulders, and spine.⁴
  — BAT transfers energy from food into heat and increases energy output.
  — As people age, having BAT can protect against adiposity.
• Beige adipose tissue is a subcutaneous type of brown fat.⁴
  — When exposed to cold, beige adipose tissue can be recruited to convert white fat into energy-burning brown fat, and reduce adiposity.

---

Aim for a Healthier Weight

Points to Emphasize:

- Excess abdominal/central adiposity is an independent predictor of cardiovascular risk factors and multiple comorbidities.¹
- Central adiposity correlates with visceral fat, which promotes insulin resistance and inflammation.
  - Inflammation worsens insulin resistance, which causes other mechanisms that worsen inflammation.
  - This feedback loop contributes to diseases such as diabetes, cardiovascular disease, and cancer.
- Weight loss can improve physical and psychological health, reduce inflammation and insulin resistance, and reduce the risk of disease and disability.

Additional Information:

- Overweight/obesity can cause dysfunction in adipose tissue (adiposopathy):
  - Hypersecretion of pro-inflammatory, pro-atherogenic, and pro-diabetic adipocytokines.
  - These adipocytokines contribute to organ-specific and biomechanical conditions:²

Obesity-Related Complications

<table>
<thead>
<tr>
<th>Biomechanical</th>
<th>Cardiometabolic</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastroesophageal reflux disease (GERD)</td>
<td>Dyslipidemia</td>
<td>Androgen deficiency</td>
</tr>
<tr>
<td>Asthma/respiratory disease</td>
<td>Hypertension</td>
<td>Cancer</td>
</tr>
<tr>
<td>Osteoarthritis</td>
<td>Prediabetes</td>
<td>Gallstone disease</td>
</tr>
<tr>
<td>Sleep apnea</td>
<td>Diabetes</td>
<td>Depression &amp; anxiety</td>
</tr>
<tr>
<td>Urinary incontinence</td>
<td>Non-alcohol fatty liver disease</td>
<td>Polycystic ovary syndrome</td>
</tr>
</tbody>
</table>

There are 236 recognized complications.³

---

### Getting Ready for Better Health

**Points to Emphasize:**

- Losing a small amount of weight—3%—can reduce complications and produce successful health outcomes.¹
- The primary therapeutic endpoint of an obesity treatment regimen is to improve obesity-related complications, not to achieve a preset decline in body weight.²
- Set clear goals with patients—they may desire greater short-term weight loss than is realistic.
- Select treatment goals based on disease stage and severity of complications.
  - **Normal weight:** prevent overweight/obesity
  - **Overweight:** prevent weight gain or promote weight loss to prevent complications
  - **Obese Class I-III:** promote weight loss to reduce complications, prevent progression, and reduce risk
- Individualize treatment for obesity-related conditions via behavioral interventions for lifestyle change, pharmacotherapy, and/or bariatric surgery.³⁻⁴

---

#### Weight Management

**Getting Ready for Better Health**

**How much weight loss will help weight-related illness and disease?**

<table>
<thead>
<tr>
<th>Weight-related illness and disease</th>
<th>Percent of Weight Loss to Benefit Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 2 diabetes—at risk for the disease</td>
<td>3 to 10 percent</td>
</tr>
<tr>
<td>High blood pressure</td>
<td>5 to 15 percent</td>
</tr>
<tr>
<td>High cholesterol</td>
<td>3 to 15 percent</td>
</tr>
<tr>
<td>High blood sugar, diabetes</td>
<td>3 to 15 percent</td>
</tr>
<tr>
<td>Sleep apnea</td>
<td>5 to 10 percent</td>
</tr>
<tr>
<td>Osteoarthritis</td>
<td>5 to 10 percent</td>
</tr>
<tr>
<td>Ultrasound by accident when you laugh, cough, or exercise</td>
<td>5 to 10 percent</td>
</tr>
<tr>
<td>Acid reflux, also called GERD</td>
<td>5 to 10 percent (woman), 10 percent (men)</td>
</tr>
<tr>
<td>Cysts on the ovaries, also called PCOS</td>
<td>5 to 15 percent</td>
</tr>
</tbody>
</table>

---

Developing New Lifestyle Skills

Points to Emphasize:

• Lifestyle management is the foundation for improving obesity-related disease, reducing adiposity, and improving patient quality of life.¹

• The presence and severity of obesity-related complications are the primary determinants for selecting treatment modality and the intensity of therapy.

• The decision to recommend lifestyle therapy alone or combined with pharmacotherapy or bariatric surgery depends on the severity of each patient’s adiposity or obesity-related complications.²

Additional Information:

• Patients with the following should be evaluated for obesity-related complications:²
  — BMI >25 kg/m² (BMI >23 kg/m² in certain ethnic groups)

• Medical history: including history of present illness, medication history, family history

• Weight-related history: life events and past episodes of weight gain or weight loss, diet and activity, weight loss readiness

• Review of systems: assessment for comorbidities/obesity-related complications

• Physical examination: BMI, waist circumference, blood pressure, assess for obesity-related complications

• Laboratory evaluations: as per guideline recommendations. If not done within last year, perform A1C and/or fasting glucose for diabetes, thyroid stimulating hormone levels, lipid panel, liver enzymes to assess for NAFLD and/or creatinine to assess for kidney function, if appropriate.

Learning New Habits for a Healthier Weight

Points to Emphasize:

- Lifestyle modifications alone may be appropriate for patients with overweight (pre-obesity) or obesity who have no clinically significant obesity-related complications.  

- Help patients develop new lifestyle skills and accomplish goals by providing step-by-step instruction on:
  - **Meal plans** to reduce total energy intake
  - Increasing the volume and intensity of **physical activity**
  - **Behavioral skills** to support adherence to lifestyle + pharmacologic interventions

- Cultivating the following behaviors can support lifestyle changes and help patients achieve and maintain weight loss:
  - Realistic goal setting
  - Personal motivation to change
  - Prompt self-monitoring of behavior
  - Using available social support
  - Self-belief that weight can be controlled

Additional Information:

- Dietary restrictions and/or physical activity can help to achieve weight loss, but over the long term, many people regain weight.  

- Caloric restriction triggers several biological adaptations designed to prevent starvation and/or preserve weight:
  - Circulating levels of hormones (e.g., ghrelin, leptin) do not return to levels recorded before diet-induced weight loss.
  - Weight loss induces reduction in resting energy expenditure, and less energy expenditure is required with physical activity because muscle efficiency is greater.
  - Certain behaviors may also contribute to weight regain.

Motivational interviewing is an effective strategy to support goal-oriented communication. Learn more at: http://obesity.aace.com/files/obesity/toolkit/motivational_interviewing.pdf
Mindful Eating

Points to Emphasize:

• Some people who are trying to manage weight think they are hungry when they may be feeling sad, bored, stressed, excited, or scared.
• People who eat in response to stress, emotions, or physical cues (e.g., responding to TV ads) may overeat.
• Mindful eating is a way to empower patients.

Additional Information:

• Highly palatable food (e.g. foods with fat or sugar) can activate the brain reward system and reinforce the need to eat more palatable food.
• Repeated stimulation of the reward pathways by eating highly palatable food can lead to neurobiological adaptation and increase compulsive overeating.

Principles of Mindful Eating:

• With practice, mindfulness cultivates the possibility of freeing yourself of reactive, habitual patterns of thinking, feeling, and acting.
• Mindfulness promotes balance, choice, wisdom, and acceptance of what is.
• Learning to be aware of physical hunger and satiety cues to guide your decision to begin eating and to stop eating.
• Allows a person to be aware of and reflect on the effects caused by unmindful eating.

How do you recognize mindful eating?

• Do you remember your last meal?
• What was the flavor, the taste, the texture?
• Do you remember why you made the food choice?
Meal Planning

Points to Emphasize:

- A negative energy balance is important for achieving weight loss.
  - Caloric restriction is more important than the type of plan.
  - AACE guidelines recommend meal plans that support an energy deficit of 500-750 kcal/day.¹

- Many meal plans support weight loss regimens (e.g., low carb, low-fat, volumetric, high protein, vegetarian, Mediterranean, DASH).

- Dietary recommendations include:
  - **Reduced intake**: refined carbohydrates, processed meats, and foods high in sodium and trans fat, high fructose corn syrup
  - **Moderate intake**: unprocessed red meats, poultry, eggs, and milk
  - **Higher intake**: fruits, nuts, fish, vegetables, vegetable oils, minimally processed whole grains, legumes, and yogurt.² Some of these foods are high in fat. Use in small amounts to achieve recommended caloric intake.

Additional Information:

- The Mediterranean diet (containing olive oil, nuts, vegetables, and fish) has many benefits in addition to favorable effect on weight:³
  - Palatable for long-term adherence
  - Reduced fasting blood glucose and better glycemic control among patients with diabetes
  - Higher persistent weight loss at 6 years, vs low-fat or low-carb meal plans
  - Lower mortality rates

- Low-calorie plans are typically 1,200-1,800 kcal/day

- Very low-calorie plans (<800 kcal/day) may be appropriate for selected patients.

  - These plans are associated with the potential for health complications (e.g., gallstones) and should only be used where trained providers and close medical monitoring is available.

---


Consider the Calories/Hunger Scale

Points to Emphasize:

• The FDA has an updated Nutrition Facts label based on new scientific information. The label reflects the link between diet and chronic diseases such as obesity and heart disease. The new label should help consumers make better informed food choices. Use of the new label is mandated by July 26, 2018. 1,2

New Label/What’s Different1

• The Hunger Scale can help people control eating and lessen the chance of ‘mindless eating’.3

---

Physical Activity

Points to Emphasize:

- All types of physical activity are beneficial.
- Physical activity is any bodily movement produced by skeletal muscle that results in energy expenditure—e.g., climbing stairs, gardening, walking the dog.
- Exercise is a type of physical activity that involves planned and structured bodily movement to increase caloric expenditure—e.g., jogging, lap swimming, resistance training.
- Engaging in or increasing physical activity and exercise improves:
  - Weight loss and maintenance
  - Metabolic, musculoskeletal, CV, pulmonary, mental, and sexual health
- Counsel patients to set goals to engage in or increase physical activity according to current guideline recommendations.¹
  - **Intensity:** able to be physically active and talk comfortably
  - **Frequency:** ≥3-4 times per week
  - **Motivation:** engage in a regular schedule of different activities, partner with someone, use a reward system

All Types of Physical Activity are Helpful

You don't have to do a marathon race!
Now that you know the importance of activity—start from where you are today. Even if you have had little activity—just start moving today. A little bit more each day provides great benefit.

<table>
<thead>
<tr>
<th>If...</th>
<th>Work up to...</th>
</tr>
</thead>
<tbody>
<tr>
<td>You want to reduce weight-related diseases</td>
<td>225-400 minutes a week</td>
</tr>
<tr>
<td>You lost weight and want to stay at your new, healthier weight</td>
<td>200-360 minutes a week</td>
</tr>
<tr>
<td>You want to avoid gaining weight</td>
<td>150-220 minutes a week</td>
</tr>
<tr>
<td>You want to stay healthy</td>
<td>About 150 minutes a week</td>
</tr>
</tbody>
</table>

Points to Emphasize:

• To maintain weight, the Centers for Disease Control (CDC) recommends one of the following each week:¹
  — 150 minutes of moderate-intensity aerobic activity (i.e., brisk walking, light swimming)
  — 75 minutes of vigorous activity (e.g., soccer, jogging, cycling)
  — An equivalent mix of the two each week.

• Adults also need muscle-strengthening activities at least 2 days per week (e.g., resistance or strength training)

• Aerobic activity of 240 to 300 minutes per week may add additional benefits to reduced calorie intake.

• Other physical activity guidelines:
  — 200-300 mins/week for weight loss maintenance (i.e., ‘you lost weight and want to stay at your new, healthier weight).²
  — ≥150 mins/week as part of comprehensive lifestyle intervention for weight loss²

• Individualize physical activity treatment planning.
  — Assess patients for comorbidities and degree of sedentary lifestyle before starting physical activity.
  — Advise patients to start slowly.

• Technology-based and other tools can help patients track activity progress.³
  — Social media: post activity to enhance accountability and get physical activity advice from others

Anti-Obesity Medications

Can medicines help with reaching a healthier weight?

Medication is another tool to use—along with lifestyle changes, meal planning and physical activity—to reach a healthier weight.

Is anti-obesity medication right for me?

Weight loss medication may be a good choice if:

- You have tried lifestyle changes but can’t reach a healthier weight.
- You are regaining weight after losing it.
- BMI is 27-29.9 with weight related disease
- Your BMI is 30 or higher

How do medications work?

Depending on the medication used, it may:

- Lower your appetite.
- Increase your energy.
- Decrease the amount of fat your body absorbs.
- Help you feel full while eating less.
- Reduce cravings (strong desires).

Points to Emphasize:

- Approved anti-obesity medications may help improve complications, enhance adherence to behavior changes, and promote long-term weight maintenance.
- Compared with lifestyle alone:
  - More patients (>50%) can achieve weight loss goals of 5%-10% with medications and lifestyle
  - Clinically significant improvements include: blood pressure, triglycerides, HDL, measures of glycemic control, and risk reduction for progression to type 2 diabetes.¹
- Patients may be candidates for medications in the following circumstances:
  - Lifestyle therapy alone does not meet health goals
  - Progressive weight gain
  - No clinical improvement in obesity-related complications
  - Weight regain following lifestyle alone
  - BMI 27-29.9 kg/m² with obesity-related complications
  - BMI ≥30 kg/m²
- Select the weight loss therapy that will most likely prevent or improve obesity-related complications.
- Review the following:
  - Treatment goals and drug efficacy for mean weight loss
  - Risks and benefits: adverse events, drug-drug interactions
  - Patient acceptance of medication side effect profiles
  - Cost

There are 2 Main Types of Anti-obesity Medications

**Points to Emphasize:**

1. Monitor patients regularly (initially every 4-6 weeks) for degree of weight loss, risk marker improvement (e.g., CVD, diabetes), titration schedules if necessary, and side effects according to each agent’s recommended prescribing schedule.¹

2. If patients do not respond to a weight loss medication 3-4 months after starting treatment (≥5% loss of body weight), consider the following:
   - Increase dose of weight loss medication
   - Switch weight loss medication

**Additional Information:**

- There are 4 short-term medications that are currently approved for weight management (Table).² ³ ⁴
- These drugs affect appetite and support adherence with a reduced calorie diet.⁵

**FDA Approved Short-term Medication (12 weeks)**

<table>
<thead>
<tr>
<th>Drug Category</th>
<th>Target, and System Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sympathomimetic</td>
<td>CNS causing appetite suppression, insomnia, palpitations, tachycardia, dry mouth, taste alterations, dizziness, tremors, headache, diarrhea, constipation, vomiting, gastrointestinal distress, anxiety, restlessness, increased blood pressure</td>
</tr>
</tbody>
</table>

**FDA Approved Long-term Medication**

<table>
<thead>
<tr>
<th>Drug Category</th>
<th>Target, and System Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pancreatic lipase inhibitor</td>
<td>GI: Alters fat absorption</td>
</tr>
<tr>
<td>Serotonin agonist</td>
<td>CNS: Stimulates serotonin type 2c receptor, suppresses appetite, promotes satiety</td>
</tr>
<tr>
<td>Sympathomimetic/antiseizure</td>
<td>CNS: Affects POMC neurons, suppresses appetite, may cause early satiety, decreases binge eating behavior⁷</td>
</tr>
<tr>
<td>GLP-1 agonist</td>
<td>Regulates appetite/satiety, lowers body weight through decreased food intake; Slows gastric emptying</td>
</tr>
<tr>
<td>Opioid antagonist/dopamine + norepinephrine reuptake inhibitor</td>
<td>CNS: Stimulates POMC neurons, suppresses appetite + food cravings</td>
</tr>
</tbody>
</table>

---

What are the Benefits of Anti-obesity Medications?

Anti-obesity medications may help with a person’s ability to “stick to” lifestyle changes leading to and keeping a healthier weight.

Points to Emphasize:

Weight Loss Associated with Long-Term Anti-Obesity Medications\(^1\)\(^-\)\(^5\)

<table>
<thead>
<tr>
<th>Therapy</th>
<th>Length of Trial</th>
<th>Total Weight Loss</th>
<th>Mean Weight Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orlistat</td>
<td>≥1 year</td>
<td>-5.3 kg</td>
<td>-6.1%</td>
</tr>
<tr>
<td>Lorcaserin</td>
<td>1 year</td>
<td>-5.8 kg</td>
<td>-5.8%</td>
</tr>
<tr>
<td>Phentermine/topiramate</td>
<td>≥1 year</td>
<td>-10.2 kg</td>
<td>-9.8%</td>
</tr>
<tr>
<td>Bupropion/naltrexone</td>
<td>≥1 year</td>
<td>-6.1 kg</td>
<td>-5.4%</td>
</tr>
<tr>
<td>Liraglutide</td>
<td>≥1 year</td>
<td>-8.4 kg</td>
<td>-8.0%</td>
</tr>
</tbody>
</table>

Advantages and disadvantages of available long-term anti-obesity medications\(^2\)\(^-\)\(^6\)

<table>
<thead>
<tr>
<th>Drug</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pancreatic lipase inhibitor</td>
<td>• Nonsystemic</td>
<td>• Side effect profile</td>
</tr>
<tr>
<td></td>
<td>• Long-term data available</td>
<td>• Supplement with fat soluble vitamins</td>
</tr>
<tr>
<td></td>
<td>• Excretion of ~ 30% of TG in stool</td>
<td>• Take 1 hour before each meal</td>
</tr>
<tr>
<td></td>
<td>• May need to lower diabetes medications</td>
<td></td>
</tr>
<tr>
<td>Serotonin agonist</td>
<td>• Side effect profile</td>
<td>• Caution with use with SSRIs</td>
</tr>
<tr>
<td></td>
<td>• SID or ER qd formulation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Long-term data available</td>
<td></td>
</tr>
<tr>
<td>Sympathomimetic/antisiezure</td>
<td>• Improved cardiometabolic biomarkers</td>
<td>• Teratogen</td>
</tr>
<tr>
<td></td>
<td>• May reduce binge eating behavior(^6)</td>
<td>• Titrate dose at initiation and discontinuation</td>
</tr>
<tr>
<td></td>
<td>• Long-term data available</td>
<td></td>
</tr>
<tr>
<td>Opioid antagonist/dopamine + norepinephrine reuptake inhibitor</td>
<td>• Food addiction/cravings</td>
<td>• Side effect profile</td>
</tr>
<tr>
<td></td>
<td>• Long-term data available</td>
<td>• Titrate dose at initiation and discontinuation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLP-1 agonist</td>
<td>• Improvement in A1C, lipids, Blood pressure</td>
<td>• Injectable</td>
</tr>
<tr>
<td></td>
<td>• Long-term data available</td>
<td>• Side effect profile: nausea most common</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Monitor: medullary thyroid cancer, pancreatitis</td>
</tr>
</tbody>
</table>

---

Weight Loss Surgery

Points to Emphasize:

- Bariatric surgery can be an effective treatment option for severe obesity.¹⁻¹⁰
  - Results in significant weight loss
  - Is more effective at improving diabetes in the short term (up to 2 years) than nonsurgical interventions (diet, exercise, other behavioral interventions, and medications).

- Bariatric surgery may be indicated in the following scenarios:
  - BMI ≥ 40 kg/m² if surgical risk is acceptable
  - BMI 35.0-39.9 kg/m² if >1 obesity-related disease
  - BMI 30-34.9 kg/m² for T2DM and/or metabolic syndrome

How is weight loss surgery done?
Most are “laparoscopic”—through small cuts made in the belly. A tiny video camera and instruments are used to perform the surgery.

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Types of Weight Loss Surgery

Points to Emphasize:

- Surgery requires referral to a surgeon with expertise in laparoscopic bariatric procedures
  
  — The surgeon will discuss the different types of bariatric surgery approaches recommended for the patient

  — Insurance coverage for specific bariatric procedures

  — Lifestyle changes that are necessary to fully benefit from bariatric surgery

  — Nonsurgical treatment options for diabetes and other metabolic conditions

If your patients are considering bariatric surgery, discuss the potential benefits and adverse effects of bariatric surgery.

Advantages + Disadvantages of Bariatric Procedures

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Pros</th>
<th>Cons</th>
<th>Expected loss % EBW at two years</th>
<th>Optimally suited for patients with:</th>
<th>Other comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roux-en-Y Gastric Bypass (RYGB)</td>
<td>Greater improvement in metabolic disease</td>
<td>Increased risk of malabsorptive complications over sleeve</td>
<td>60-73%</td>
<td>Higher BMI, GERD, Type 2 DM</td>
<td>Largest data set, more technically challenging than LAGB, VSG</td>
</tr>
<tr>
<td>Vertical Sleeve Gastrectomy (VSG)</td>
<td>Improves metabolic disease; maintains small intestinal anatomy; micronutrient deficiencies infrequent</td>
<td>No long term data</td>
<td>50-70%</td>
<td>Metabolic disease</td>
<td>Can be used as the first step of staged approach; most common based on 2014 data</td>
</tr>
<tr>
<td>Laparoscopic Adjustable Gastric Banding (LAGB)</td>
<td>Least invasive; removable</td>
<td>25-40% 5 year removal rate internationally</td>
<td>30-50%</td>
<td>Lower BMI; no metabolic disease</td>
<td>Any metabolic benefits achieved are dependent on weight loss</td>
</tr>
</tbody>
</table>

If You are Thinking about Weight Loss Surgery...

You and your health care provider can talk about:

✅ The benefits and risks.
✅ Where to find an experienced surgeon.
✅ Which surgery is best for you.
✅ Lifestyle changes to get the full benefit from your surgery.

Points to Emphasize:

- Discuss the need to select an experienced surgeon for best surgical outcomes.¹
- Studies show surgery reduces a person’s risk of premature death by 30-40%.²,³
- Gastric bypass patients may improve life expectancy by 89%.²,³

Did You KNOW? Benefits of Weight Loss Surgery

✅ Studies show bariatric surgery cuts a person's risk of dying early by 30-40%.
✅ Bariatric surgery reduces death from cancer by 60%, with the most reductions seen in breast and colon cancers.
✅ Helps to improve or resolve more than 40 obesity-related problems.
✅ Gastric bypass patients may improve life expectancy by 89 percent.

Additional Information:

| Disease and Conditions of Severe Obesity that Obesity Surgery May Prevent, Resolve, Improve⁴ |
|-------------------------------------------------|---------------------------------|-----------------|-----------------|----------------|
| Type 2 diabetes Cancers                         | Cardiovascular                  | Asthma          | Obstetric complications |
| Breast                                          | Hypertension                    | Osteoarthritis  | Operative risk       |
| Colorectal                                      | Coronary artery disease         | Chronic back pain | Liver cirrhosis     |
| Endometrial                                     | Dyslipidemia                    | Sleep apnea     | Thrombosis          |
| Esophageal                                      | Pulmonary embolism              | Esophagitis     | Poor quality of life |
| Kidney                                          | Stroke                          | Infectious disease |                   |
| Ovarian                                         |                                 | Infertility     |                  |
| Pancreatic                                      |                                 | Obstetric       |                  |
| Prostate                                        |                                 | complications   |                  |

SUMMARY

Point to Emphasize:
Talking with your health care provider about making a treatment plan is a strong predictor of successful weight loss.

Initiate a collaborative conversation about weight management with patients¹-⁴

1. You might have heard getting to a healthier weight is simple. But many different body systems work together to make you gain weight. The more weight you gain, the more difficult it is to lose extra weight.
2. Talking with your health care provider about making a treatment plan is a strong predictor of successful weight loss.
3. The disease of obesity is a chronic illness requiring life-long treatment using multiple "tools" to reach a healthier weight. Your health care provider can help you aim for a healthier weight to avoid illness and enjoy life.

¹ Centers for Medicare and Medicaid Services. Decision memo for intensive behavioral therapy for obesity (CAG-00423N).
Specialist Referral

Obesity Specialist
If weight loss is ineffective (<5% at 3 months) or if there are safety or tolerability issues at any time, guidelines recommend that the medication be discontinued and alternative medications or referral for alternative treatment approaches be considered.

Other Specialists
Patients may also be referred to mental health professionals, endocrinologists, sleep specialists, nutritionists, registered dietitians, psychologists, and exercise physiologists for additional support if necessary.

Obesity specific tools to support diagnosis, evaluation, and management
AACE Obesity Resource Center: http://obesity.aace.com/obesity-resource-toolkit
American Obesity Association: http://www.obesity.org
Obesity Action Coalition: http://www.obesityaction.org/educational-resources
Obesity Society: http://www.obesity.org/publications/clinical-resources
http://www.obesity.org/resources/facts-about-obesity/resources-for-consumers
Community Health Association of Mountain/Plain States (CHAMPS) Obesity Resource List http://champsonline.org/tools-products/diseasecondition-specific-resources/overweight-and-obesity-treatment-and-prevention-resources
Obesity Support Group for Bariatric Surgery http://www.obesityhelp.com/

Diabetes Prevention
Preventing Diabetes: https://www.cdc.gov/diabetes/home/index.html

RESOURCES
UpToDate Weight Loss Treatments: http://www.uptodate.com/contents/weight-loss-treatments-beyond-the-basics?source=search_result&search=obesity+patients&selectedTitle=9~150
Go to https://www.AANP.org
Click Education Tab
Select Education Tools and Resources
Select Obesity
for additional resource information.

General Lifestyle Advice
Heart Health and Healthy Living: https://healthyforgood.heart.org/
Healthy Food Choices: https://www.choosemyplate.gov/
American Dietetic Association: http://www.eatright.org/
The Center for Mindful Eating: http://thecenterformindfuleating.org/
Center for Disease Control Healthy lifestyle: www.cdc.gov/obesity/

RESOURCES
Overweight and Obesity Prevention Resources: http://www.cdc.gov/obesity/resources/overweight-and-obesity-prevention-resources
Obesity Action Coalition: http://www.obesityaction.org/
Obesity Society: http://www.obesity.org/publications/clinical-resources
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